

Yellow highlights = addition to the 2006 WQS document

Water Quality Standards

Bad River Band of the Lake Superior Tribe of Chippewa Indians

The water quality standards are applicable to the waters within the Bad River Reservation located in the State of Wisconsin.

(a) *Background.* (1) It is the purpose for these Tribal water quality standards to prescribe minimum water quality requirements for the surface waters located within the exterior boundaries of the Bad River Reservation to ensure compliance with section 303(c) of the Clean Water Act.

(2) The Bad River Tribe has a primary interest in the protection, control, conservation and utilization of the water resources of the Bad River Reservation as exemplified in the original Treaty and the Bad River Constitution and ultimately recognized by the USEPA on June 26, 2009 in affirming the Tribes application for program authority.

(b) *Territory Covered.* The provisions for these water quality standards shall apply to all surface waters within the exterior boundaries of the Bad River Reservation.

(c) *Applicability, Administration and Amendment.* (1) The water quality standards in this section shall be used by the Regional Administrator for establishing any Total Maximum Daily Loads (TMDL) and water quality based National Pollutant Discharge Elimination System Permit (NPDES) for point sources on the Bad River Reservation. (2)

(2) No new mixing zones are permitted for bioaccumulative chemicals of concern (BCCs) under the Great Lakes Initiative, 40 CFR Part 132. For all other pollutants and in

conjunction with the issuance of section 402 or 404 permits, the Regional Administrator may designate mixing zones on the reservation on a case-by-case basis. The size of such mixing zones and the in-zone water quality shall be consistent with the applicable procedures and guidelines in 40 CFR part 132, Appendix F, Procedure 3.

(3) Amendments to these water quality standards may occur as needed at the discretion of the Tribe which shall proceed in the following manner.

- (i) These water quality standards shall be reviewed every three years and may be updated at such time or as the need arises. Any updates shall first be duly approved by the Bad River Tribal Council (and so certified by the Tribe's Legal Counsel) and submitted to the Regional Administrator for approval.

~~(5)~~ All other applicable provisions of part 131 and part 132 shall apply on the Bad River Reservation. Special attention should be paid to § § 131.6, 131.10, 131.11, 132.3, 132.5, 132.6 and 131.20 for any amendment to these standards to be initiated by the Tribe.

~~(6)~~ All numeric criteria contained in this section apply at all in-stream flow rates greater than or equal to the flow rate calculated as the minimum 7-consecutive day average flow with a recurrence frequency of once in ten years (7Q10); narrative criteria apply regardless of flow. The 7Q10 low flow shall be calculated using methods recommended by the U.S. Geological Survey.

d) *Definitions.* Any term not defined here will have meaning consistent with the definitions in 40 CFR 132, or if not defined in 40 CFR 132 will have the meaning interpreted consistent with the Clean Water Act.

(1) "Acute-chronic ratio (ACR)" is a standard measure of the acute toxicity of a material divided by an appropriate measure of the chronic toxicity of the same material

under comparable conditions.

(2) “Acute toxicity” is concurrent and delayed adverse effect(s) that results from an acute exposure and occurs within any short observation period which begins when the exposure begins, may extend beyond the exposure period, and usually does not constitute a substantial portion of the life span of the organism.

(3) “Adverse effect” is any deleterious effect to organisms due to exposure to a substance. This includes effects which are or may become debilitating, harmful or toxic to the normal functions of the organism.

(4) “Background conditions” means the biological, chemical, and physical conditions of a water body, upstream from the point or non-point source discharge under consideration. Background represents all loadings that: (1) flow from upstream waters into the specified watershed, waterbody or waterbody segment for which a TMDL, WLA in the absence of a TMDL or preliminary WLA for the purpose of determining the need for a WQBEL is being developed; (2) enter the specified watershed, waterbody or waterbody segment through atmospheric deposition or sediment release or resuspension; or (3) occur within the watershed, waterbody or waterbody segment as a result of chemical reactions. (d)(4)(4) a “change in background” shall mean a change which can be measured with reasonable scientific certainty using accepted analytical methods as in (e)(6) of these standards.

(5) “Bioaccumulative chemical of concern (BCC)” is any chemical that has the potential to cause adverse effects which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health

bioaccumulation factor greater than 1000, after considering metabolism and other physicochemical properties that might enhance or inhibit bioaccumulation, in accordance with the methodology in appendix B of 40 CFR Part 132. Chemicals with half-lives of less than eight weeks in the water column, sediment, and biota are not BCCs. The minimum BAF information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the BSAF methodology. The minimum BAF information needed to define an inorganic chemical, including an organometal, as a BCC is either a field-measured BAF or a laboratory-measured BCF. BCCs include, but are not limited to, the pollutants identified as BCCs in section A of Table 6 of 40 CFR Part 132.

(6) “Carcinogen” is a substance which causes an increased incidence of benign or malignant neoplasms, or substantially decreases the time to develop neoplasms, in animals or humans. The classification of carcinogens is discussed in section II.A of appendix C to part 132.

(7) “Ceremonial and Religious water use” is an activity involving traditional Native American spiritual practices which may involve, among other things, ingestion of water or primary (direct) contact with water.

(8) “Chronic toxicity” means the capacity of a substance to cause long-term poisonous health effects in humans, animals, fish and other organisms.

(9) “Council” or “Tribal Council” means the governing body of the Bad River Band of the Lake Superior Tribe of Chippewa Indians.

(10) “Criterion continuous concentration (CCC)” is an estimate of the highest

concentration of a material in the water column to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect.

(11) “Criterion maximum concentration (CMC)” is an estimate of the highest concentration of a material in the water column to which an aquatic community can be exposed briefly without resulting in an unacceptable effect.

(12) “Cultural water use” means activities involving traditional Ojibwe (Chippewa) practices which includes ceremonies, harvesting, hunting and fishing, actual or historical.

(13) “Designated uses” are those uses specified in water quality standards for each water body or segment whether or not they are being attained.

(14) “Endangered or threatened species” are those species that are listed as endangered or threatened under section 4 of the Endangered Species Act.

(15) “Exceptional Resource Water” (Anishinaabosibiing or “good watering place”) is a classification for waters considered to be of high quality and culturally important for the ecosystems they support. This classification is for the purpose of implementing the antidegradation policy and is essentially equivalent to EPA’s regulatory definition of a Tier 2 antidegradation classification. Any surface water not specifically classified as Outstanding Tribal Resource Water or Outstanding Resource Water is classified as Exceptional Resource Waters (Anishinaabosibiing) Waters.

(16) “Existing uses” are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.

(17) “Human cancer criterion (HCC)” is a Human Cancer Value (HCV) for a

pollutant that meets the minimum data requirements for Tier I specified in appendix C of 40 CFR Part 132.

(18) “Human cancer value (HCV)” is the maximum ambient water concentration of a substance at which a lifetime of exposure from either: drinking the water, consuming fish from the water, and water-related recreation activities, will represent a plausible upper-bound risk of contracting cancer of one in 100,000 using the exposure assumptions specified in the Methodologies for the Development of Human Health Criteria and Values in appendix C of 40 CFR Part 132.

(19) “Human noncancer criterion (HNC)” is a Human Noncancer Value (HNV) for a pollutant that meets the minimum data requirements for Tier I specified in appendix C of 40 CFR Part 132.

(20) “Human noncancer value (HNV)” is the maximum ambient water concentration of a substance at which adverse noncancer effects are not likely to occur in the human population from lifetime exposure via either: drinking the water, consuming fish from the water, and water-related recreation activities; or consuming fish from the water, and water-related recreation activities using the Methodologies for the Development of Human Health Criteria and Values in appendix C of 40 CFR Part 132.

(21) “Mixing Zone” is a limited area or volume of water where initial dilution of a discharge takes place; and where numeric water quality criteria can be exceeded but acutely toxic conditions are prevented from occurring.

(22) “Natural Biological Community” means the characteristic/expected biological community for a water body absent human impacts.

(23) “Non-point Source” means any source of pollution or substance to water quality that is not a point source.

(24) “Outstanding Resource Water” (Chiminosibii or “large good river”) is a classification for those waters so designated in the antidegradation policy that are considered to be of high quality and culturally important for the fisheries and ecosystems they support. This classification is more stringent than EPA’s Tier 2 antidegradation classification and could be described as a Tier 2.5(?), 2.9(?).

(25) “Outstanding Tribal Resource Water” (Manominikanning or “rice place”) is a classification for those waters so designated in the antidegradation policy that are considered largely pristine and important for the cultivation of wild rice. This classification is equivalent to EPA’s Tier 3 antidegradation classification.

(26) “Point Source” means any source of pollution or substance to water quality that issues from the end of a pipe or discharges from a specific source.

(27) “Pollutant” is any substance, chemical, or chemical breakdown product (including heat) that has a presence in the environment that is the direct or indirect result of a human activity.

(28) “pH” is the negative logarithm of the hydrogen ion concentration in gram equivalents per liter;. provides a measure on a scale from 0 to 14 of the acidity or alkalinity of a solution (where 7 is neutral and greater than 7 is more basic and less than 7 is more acidic).

(29) “Primary contact recreation” is activities where a person would have direct contact with water to the point of complete submergence, including but not limited to

skin diving, swimming, and water skiing.

(30) “Regional Administrator” is the Administrator of EPA's Region V.

(31) “Reservation” is all land within the limits of the Reservation of the Bad River Band of Lake Superior Chippewa Indians as established by the Treaty of September 30, 1854 under the jurisdiction of the United States government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation.

(32) “Ricing” means the traditional harvest of wild rice for consumption and cultural use.

(33) “Secondary Contact Recreation” is activities (such as wading or fishing) where a person's water contact would be limited to the extent that bacterial infections of eyes, ears, respiratory, or digestive systems or urogenital areas would normally not occur.

(34) “Surface Water” means all water above the surface of the ground within the exterior boundaries of the Bad River Reservation including but not limited to lakes, ponds, reservoirs, artificial impoundments, streams, rivers, springs, seeps and wetlands.

(35) “Temperature” means water temperature expressed in Centigrade degrees (C).

(36) “Toxicity (acute and/or chronic toxicity)” is the property of a material, or combination of materials, to adversely affect organisms.

(37) “Tribe” means the Bad River Band of the Lake Superior Tribe of Chippewa Indians.

(38) “Turbidity” is the clarity of water expressed as nephelometric turbidity units (NTU) and measured with a calibrated turbidimeter.

(39) “Wildlife Habitat” means the waters and surrounding land areas of the Reservation used by fish, other aquatic life and other wildlife at any stage of their life history or activity.

(e) *General considerations.* The following general guidelines shall apply to the water quality standards and classifications set forth in the use designation Sections.

(1) *Classification boundaries.* At the boundary between waters of different classifications, the water quality standards for the higher classification shall prevail.

(2) *Antidegradation policy.* This antidegradation policy shall be applicable to all surface waters of the Reservation.

(i) For the purposes of implementing the provisions of this subsection, any surface water not specifically classified as Outstanding Tribal Resource Waters (Manominikanning) or Outstanding Resource Waters (Chiminosibii) is considered classified as Exceptional Resource Waters (Anishinaabosibiing). Exceptional Resource Waters are of good quality and culturally important for the ecosystems they support. Existing in-stream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected, or improved in the case of a degraded stream. Where designated uses of the water body are impaired, there shall be no lowering of the water quality with respect to the pollutant or pollutants which are causing the impairment. Where the quality of the water exceeds that necessary to support the designated use, that quality shall be maintained and protected, or improved, unless the Tribe finds, after full satisfaction of inter-governmental coordination and public participation provisions of the Tribe’s continuing planning process that allowing lower

water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the Tribe shall assure water quality adequate to protect existing uses fully. Further, the Tribe shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(ii) Surface waters of the Reservation considered to be of high quality and culturally important to the Tribe for the fisheries and ecosystems they support will be Outstanding Resource Waters (Chiminosibii). Existing ambient water quality on Outstanding Resource Waters may not be lowered. New or increased discharges may be permitted provided that the new or increased discharge does not result in a change in background conditions or negatively impact designated uses, however, no new or increased discharges of BCCs will be permitted. Waters designated as Outstanding Resource Waters include but are not limited to: Bad River, White River, Marengo River, and Potato River.

(iii) Where high quality waters are identified as constituting a significantly important cultural and ecological resource, and are designated as Outstanding Tribal Resource Waters (Manominikanning) that are considered largely pristine and important for the cultivation of rice that water quality shall be maintained and protected in all cases without degradation. New or increased discharges will not be permitted. The following waters are designated as Outstanding Tribal Resource waters, including but not limited to the Kakagon Slough and the lower wetland reaches of its tributaries that support wild

rice, and the Bad River/Honest John Slough.

(iv) In those cases where potential water quality impairment associated with a thermal discharge is involved, this antidegradation policy's implementing method shall be consistent with section 316 of the Clean Water Act.

(3) *Narrative criteria for aesthetic water quality.* All waters within the Reservation, including those within mixing zones, shall be free from substances, attributable to wastewater discharges or pollutant sources resulting from other than natural background conditions, that:

- (i) Settle to form objectionable deposits;
- (ii) Float as debris, scum, oil, or other matter forming nuisances;
- (iii) Produce objectionable color, odor, taste, or turbidity;
- (iv) Cause injury to, are toxic to, or produce adverse physiological responses in humans, animals, or plants;
- (v) Produce undesirable or nuisance aquatic life;
- (vi) Produce nutrients or other substances that stimulate algal growth producing objectionable algal densities, nuisance aquatic vegetation, dominance of any nuisance species instream, or cause nuisance conditions in any other fashion;
- (vii) Adversely affect the natural biological community;

(4) *General narrative criteria.* These criteria apply to all waters of the Reservation (including wetlands) except as otherwise noted.

(i) Toxic, radioactive, nonconventional, or deleterious substances shall not be present in concentrations which are toxic to human, plant, animal or aquatic life or in

quantities that interfere with the normal propagation, growth and survival of sensitive indigenous aquatic biota (limited exceptions may be granted to these prohibited conditions but then only within designated mixing zones). For toxic substances lacking published criteria, criteria or values shall be calculated by the Tribe or U.S. EPA consistent with procedures specified at 40 CFR, part 132, Appendices A, B, C and D.

(ii) Water quantity and quality necessary for the maintenance of the natural biological community and for the growth and propagation of wildlife, wild rice, and other aquatic plants of cultural importance to the Bad River Band shall be maintained or improved.

(iii) Natural hydrological conditions necessary to support the natural biological community and physical characteristics naturally present in streams, lakes and wetlands shall be protected.

(iv) Adverse impacts from human activity on water currents, erosion or sedimentation patterns, natural water temperature variations, the chemical nutrient and dissolved oxygen regime of the stream or wetland, the normal movement of aquatic fauna, the pH of the wetland and normal water levels or elevations shall be prevented.

(5) *Specific narrative criteria.* These criteria apply to all waters except wetlands whose natural state may be different under natural conditions:

(i) Dissolved oxygen – Unless otherwise demonstrated through a use attainability analysis or site-specific criterion that aquatic life cannot be supported, a water body capable of supporting aquatic life shall have a daily minimum dissolved oxygen standard of 5 mg/L in all cases except waters designated as a Cold Water Fishery. The dissolved

oxygen shall not be less than 6.0 mg/L for those waters designated as Cold Water Fishery.

(ii) Temperature – No increase in temperature outside a mixing zone shall be allowed from other than natural background conditions.

(iii) pH – No change is permitted greater than 0.5 units over a period of 24 hours outside a mixing zone due to any other than natural causes. The change, upward or downward, shall not result in an undue adverse affect on aquatic biota, fish or wildlife.

(iv) Turbidity – shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

(v) Bacteriological Water Quality Criteria - The geometric mean of not less than 5 samples equally spaced over a 30-day period shall not exceed one or other of the following: 33 enterococci per 100 milliliters (ml) or 126 *E. coli* per 100 ml for fresh waters. Any single sample shall not exceed 150 enterococci per 100 ml or 235 *E. coli* per 100 ml.

(vi) Sulfates – any lake or stream which supports the growth of wild rice shall not exceed instantaneous maximum sulfate levels of 10 mg/L.

(vii) Modification of Criteria - The Tribe may revise criteria on a site-specific basis as necessary to reflect new scientific data or conditions specific to a given site or water body. Such modifications to water quality criteria shall assure that all designated and existing uses are protected and that water quality standards continue to be attained. Revisions or site-specific criteria shall be consistent with those procedures found in

Chapter Three of the USEPA “Water Quality Standards Handbook” (Revised, 1994) and 40 CFR 132, “Water Quality Guidance for the Great Lakes System.” All modified criteria will be submitted to the Regional Administrator for approval. The Regional Administrator shall adopt more stringent site-specific criteria where necessary to protect Federally listed Threatened or Endangered Species consistent with 40 CFR 132 Appendix f, procedure 1. Such revisions shall be adopted using the procedure specified in section 4.

(6) *Analytical methods.* (i) The analytical testing methods used to measure or otherwise evaluate compliance with water quality standards shall to the extent practicable, be in accordance with the “Guidelines Establishing Test Procedures for the Analysis of Pollutants” (40 CFR part 136). When a testing method is not available for a particular substance, the most recent edition of “Standard Methods for the Examination of Water and Wastewater” (published by the American Public Health Association, American Water Works Association, and the Water Pollution Control Federation) and other or superseding methods published and/or approved by EPA shall be used.

(f) *Designated Uses.* The following designated uses shall apply to the various classes of surface waters within the exterior boundaries of the Bad River Reservation:

(1) *Cultural (C1).* Water-based activities essential to maintaining the Tribe’s cultural heritage, including but not limited to ceremony, subsistence fishing, and hunting and harvesting. This use includes the possibility of primary and secondary contact and ingestion.

(2) *Wild Rice (W1).* Supports or has the potential to support wild rice habitat for

sustainable growth and safe consumption.

(3) *Wildlife (W2)*. Supports the proper habitat for propagation of wildlife, which will allow the safe ingestion of any wildlife resources that provide a dietary food source for tribal subsistence.

(4) *Aquatic Life and Fish (A)*. Supports conditions for a balanced aquatic community.

(5) *Cold Water Fishery (F1)*. Supports or has the potential to support the existence of cold water fishery communities and/or spawning areas. No thermal discharge to such waters will be allowed.

(6) *Cool Water Fishery (F2)*. Supports or has the potential to support the existence of cool water fishery communities and/or spawning areas for at least a portion of the year.

(7) *Recreational (R)*. Supports primary contact recreation and secondary contact recreation. This includes Tribal activities including water contact such as boating, hunting, fishing and harvesting.

(8) *Commercial (C2)*. Supports the use of water in propagation of fish fry for the Tribal Hatchery and/or irrigation of community agricultural projects.

(9) *Navigation (N)*. The water quality is adequate for navigation in and on the water.

(10) *Wetland*. An area that will be protected and maintained for some of the following uses: maintaining biological diversity, preserving wildlife habitat, providing recreational activities, erosion control, groundwater recharge, low flow augmentation,

storm water retention, prevention of stream sedimentation, and the propagation of wild rice.

Note: The Tribe does not designate a public water supply use because the surface waters of the Reservation are currently not utilized as a drinking water supply. In their natural state, the surface waters contain a large enough quantity of tannins and natural constituents to cause taste and odor problems upon treatment.

Where there are several designated uses for a water body, the applicable standard applied will be the criterion necessary to protect the most sensitive use. At the boundary between surface waters of different designated uses, the water quality criteria necessary to protect the more sensitive use or uses shall apply.

(g) *Numeric Water Quality Criteria.* The Bad River Tribe adopts by reference all of the numeric criteria and methodologies from the Great Lakes Guidance, 40 CFR 132.6.

(1) The acute water quality criteria for the protection of aquatic life in ambient water in tables 1 and 2 apply to all waters.

TABLE 1 Acute Aquatic Life Criteria that are not water characteristic dependent.

Acute numeric criteria for the protection of aquatic life

Parameter	CMC (ug/L)	CF
Arsenic (III)	339.8 ^{a,b}	1
Chromium (VI)	16.02 ^{a,b}	0.982
Cyanide	22 ^c	na
Dieldrin	0.24 ^d	na
Endrin	0.086 ^d	na
Lindane	0.95 ^d	na
Mercury (II)	1.694 ^{a,b}	0.85
Parathion	0.065 ^d	na
Selenium	19.34 ^{a,b}	0.922

^aCMC=CMC^{tr}

^bCMC^d=(CMC^{tr})CF The CMC^d shall be rounded to two significant digits.

^cCMC should be considered free cyanide as CN.

^dCDM=CMC^t

NOTES:

The term n/a means not applicable.

CMC is Criterion Maximum Concentration


CMC^{tr} is the CMC expressed as a total recoverable.

CMC^d is the CMC expressed as a dissolved concentration.

CMC^t is the CMC expressed as a total concentration.

TABLE 2 Acute Aquatic Life Criteria that are water characteristic dependent.

Acute aquatic life criteria that are hardness or pH dependent



Parameter	m _a	b _a	Conversion Factor (CF)
Cadmium ^{a,b}	1.1280	-3.6867	0.8500
Chromium (III) ^{a,b}	0.8190	3.7256	0.3160
Copper ^{a,b}	0.9422	-1.7000	0.9600
Lead			
Nickel ^{a,b}	0.8460	2.2550	0.9980
Pentachlorophenol ^c	1.0050	-4.8690 na	
Zinc ^{a,b}	0.8473	0.8440	0.9780

^aCMC^{tr}= exp {m_A[ln(hardness)]+b_A}

^bCMC^d=(CMC^{tr})CF. The CMC^d shall be rounded to two significant digits.

^cCMC^t= exp {m_A[pH]+b_A} The CMC^t shall be rounded to two significant digits

NOTES:

The term “exp” represents the base e exponential function.

The term “n/a” means not applicable.

CMC is Criterion Maximum Concentration.

CMC^{tr} is the CMC expressed as total recoverable.

CMC^d is the CMC expressed as a dissolved concentration.

CMC^t is the CMC expressed as a total concentration.



(2) The chronic water quality criteria for protection of aquatic life in ambient water in tables 3 and 4 apply to all waters.

TABLE 3 Chronic Aquatic Life Criteria that are not water characteristic dependent.

Chronic Water Criteria for Protection of Aquatic Life in Ambient Water

Parameter	CCC (ug/L)	Conversion Factor
Arsenic (III)	147.9 ^{a,b}	1.0000
Chromium (VI)	10.98	0.9620
Cyanide	5.2 ^c	na
Dieldrin	0.056 ^d	na
Endrin	0.036 ^d	na
Mercury (II)	0.9081 ^{a,b}	0.8500
Parathion	0.013 ^d	na
Selenium	5 ^{a,b}	0.9220

^aCCC=CCC^{tr}

^bCCC^d=(CCC)^{tr}CF

^cCCC should be considered free cyanide as CN.

^dCCC=CCC^{tr}

NOTES:

The term “n/a” means not applicable.

CCC is Criterion Continuous Concentration.

CCC^{tr} is the CCC expressed as total recoverable.

CCC^d is the CCC expressed as a dissolved concentration.

CCC^t is the CCC expressed as a total concentration

TABLE 4 Chronic Aquatic Life Criteria that are water characteristic dependent.

Chronic aquatic life criteria that are hardness or pH dependent

Parameter	m _c	b _c	Conversion Factor
Cadmium	0.7852	-2.7150	0.8500
Chromium (III)	0.8190	0.6848	0.8600
Copper	0.8545	-1.7020	0.9600
Nickel	0.8460	0.0584	0.9970
Zinc	0.8473	0.8840	0.9860
Pentachlorophenol	1.0050	-5.1340	Na

^aCCC^{tr}=exp {m_c[ln (hardness)]+b_c.

^bCCC^d=(CCC^{tr})CF. The CCC^d shall be rounded to two significant digits.

^cCCC=exp {m_A[pH]+b_A}. The CCC^t shall be rounded to two significant digits.

NOTES:

The term “exp” represents the base e exponential function.

The term “n/a” means not applicable.

CCC is Criterion Continuous Concentration

CCC^{tr} is the CCC expressed as total recoverable.

CCC^d is the CCC expressed as a dissolved concentration.

CCC^t is the CCC expressed as a total concentration.

(3) The Great Lakes water quality initiative methodologies for development of aquatic life criteria and values in Appendix A of 40 CFR part 132 apply to all waters.

- (1) The human health cancer criteria for nondrinking water (HCV-nondrinking), and human health noncancer criteria for nondrinking water (HNV-nondrinking) from table 5 shall apply to all waters.

TABLE 5 Human Health Criteria

Human Health Criteria, cancer values (µg/L)		
	DW Criteria	NDW Criteria
Benzene	9.1E+00	3.7E+01
Chlordane	9.7E-05	9.7E-05
DDT	1.5E-05	1.5E-05
Dieldrin	6.8E-07	6.8E-07
Hexachlorobenzene	4.8E-05	4.8E-05
Hexachloroethane	6.9E-01	7.1E-01
Methylene chloride	4.3E+01	3.7E+02
PCBs (class)	2.7E-06	2.7E-06
2,3,7,8-TCDD	9.1E-10	9.1E-10
Toxaphene	7.1E-06	7.1E-06
Trichloroethylene	1.8E+01	4.1E+01

Human Health Criteria, noncancer values (µg/L)		
	DW Criteria	NDW Criteria
Benzene	1.50E+01	6.08E+01
Chlordane	1.49E-04	1.49E-04
Chlorobenzene	5.33E+01	8.73E+01
Cyanides	1.41E+02	1.98E+03
DDT	2.10E-04	2.10E-04
Dieldrin	4.36E-05	4.36E-05
2,4-Dimethylphenol	3.19E+02	9.95E+02
2,4-Dinitrophenol	4.90E+01	3.80E+02
Hexachlorobenzene	4.88E-03	4.88E-03
Hexachloroethane	7.75E-01	7.97E-01
Lindane	5.23E-02	5.26E-02
Mercury	1.94E-04	1.94E-04
Methylene chloride	1.46E+03	1.26E+04
2,3,7,8-TCDD	7.10E-09	7.10E-09
Toluene	7.41E+02	1.40E+03

(5) Since the Tribe does not have a public surface water supply use, but may ingest untreated surface waters during tribal ceremonies, the human cancer criteria for drinking water (HCV-drinking), and human noncancer criteria for drinking water (HNV-drinking) from table 5 shall apply to the water bodies designated for cultural uses (C1) and recreation (R).

(6) The Great Lakes water quality initiative methodologies for development of human health nondrinking water criteria and values in Appendix B and C of 40 CFR part 132 apply to all waters.

(7) The Great Lakes water quality initiative methodologies for development of human health drinking water criteria and values in Appendix B and C of 40 CFR part 132 apply to waters designated for cultural (C1) and recreational (R) uses.

(8) The criteria for the protection of wildlife in table 6 applies to all waters.

TABLE 6 Criteria for the protection of wildlife

Wildlife Numeric Criteria (ug/L)

Parameter	Criterion
DDT and metabolites	0.000011
Mercury	0.0013
PCBs (class)	0.000074
2,3,7,8,-TCDD	3.1E-09

(9) The Great Lakes water quality initiative methodologies for development of wildlife criteria and values in Appendix B and D of 40 CFR part 132 apply to all waters.

(10) Ammonia criteria for all waters of the reservation shall meet the following conditions:

(i) The one-hour average concentration of total ammonia nitrogen (in mg N/L) does not exceed, more than once every three years on the average, the CMC (acute criterion) calculated using the following equations:

Salmonids present:

$$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

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Salmonids absent:

$$CMC = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

(ii) The thirty-day average concentration of total ammonia nitrogen (in mg N/L) does not exceed, more than once every three years on the average, the CCC (chronic

criterion) calculated using the following equation:

Fish early life stages present:

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * MIN(2.85, 1.45) * 10^{0.028 * (25 - T)}$$

Fish early life stages absent:

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * 1.45 * 10^{0.028 * (25 - MAX(T, 7))}$$

(iii) In addition, the highest four-day average within the 30-day period shall not exceed 2.5 times the CCC.

(h) *Specific Classifications.* Specific classifications for surface waters of the Bad River Reservation are in the following table:

WATERBODY	DESIGNATED USES APPLIED TO WATER BODIES						
	C1	W2	W1	A	R	F1	F2
Kakagon Slough	X	X	X	X	X		X
Sand Cut Slough	X	X	X	X	X		X
Bad River Slough	X	X	X	X	X		X
Honest John Lake	X	X		X	X		X
Wood Creek Slough	X	X	X	X	X		X
Bad River	X	X	X	X	X	X	X
White River	X	X		X	X		X
Marengo River	X	X		X	X	X	X

Potato River	X	X		X	X	X	X
Wood Creek	X	X	X	X	X		
Bear Trap Creek	X	X	X	X	X		X
Graveyard Creek	X	X		X	X	X	
Bell Creek	X	X		X	X	X	
Morrison Creek	X	X		X	X	X	
Newago Creek	X	X		X	X	X	
Denomie Creek	X	X		X	X		
West Branch Denomie Creek	X	X		X	X		
Rins Creek	X	X		X	X		
Silver Creek	X	X		X	X	X	
Thornapple Creek	X	X		X	X		
Meadow Creek	X	X		X	X		
Elm Creek	X	X		X	X		
Vaughn Creek	X	X		X	X		X
Upper Vaughn Creek	X	X		X	X		X
Winks Creek	X	X		X	X		X
Cameron Creek	X	X		X	X		X
Sugarbush Creek	X	X		X	X		
Hanson Swamp	X	X		X	X		
Sugarbush Pond	X	X		X	X		
Alex Pond	X	X		X	X		
Wolf Pond	X	X		X	X		
Pictured Rock Lake	X	X		X	X		

Sugarbush Lake	X	X		X	X		
Lost Lake	X	X		X	X		
Moonshine Lake	X	X		X	X		
Bog Lake	X	X		X	X		

*The designated uses entitled Commercial (C2) and Navigation (N) apply to all waters. Waters not listed above will have the following designated uses: Wildlife (W2), Aquatic Life and Fish (A), Recreation (R), Commercial (C2), and Navigation (N).

